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**Domain Coarsening and Aging in Dislocation Glasses**

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Dislocation systems were analyzed numerically with 1 and 3 glide axes, at T=0 and T>0, with and without climb. [1] Dislocation free domains formed even without shear, defined by dislocation rich domain walls. The domain formation was most pronounced in the presence of climb, somewhat counter-intuitively. The stability of domains was analyzed. The microscopic processes suppressing the climb-induced decay of domain walls were identified. The dislocation dynamics at low temperatures was markedly glassy. Aging: Dislocations with glide only support minimal domain formation. The autocorrelation function showed aging, scaling with the waiting time as: $C(t,t_w) = C_{eq}(t)\ C(t/t_w^{\mu})$ and $C_{eq}(t) \sim t^{-\beta}$, with $\mu$=0.65 and $\beta$=0.54. Freezing: The effective diffusion constant decayed to zero as: $D(t)_{eff} \sim t^{-\gamma}$ , with $\gamma$=0.8. Coarsening: Dislocations with glide and climb exhibited profound domain formation, the domains coarsening as L(t): $L(t) \sim t^{1/z}$, with 1/z=0.17. The formation of domains without shear has been recently observed in GaAs by Rudolph and in dusty plasmas by Quinn and Joree. The domain coarsening was quantitatively captured in di-block copolymers [2], with 1/z=0.19, in good agreement with our results.

[1] B. Bako, G. Groma, G. Gyorgyi and G.T. Zimanyi, Phys. Rev. Lett. **98**, 075701 (2007).
[2] P. Chaikin's talk, same session.